



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

ELECTRONIC MAIL

June 2, 2014

Mr. Derek W. Tomlinson, P.E., P. Eng.
Project Coordinator
Geosyntec Consultants, Inc.
1787 Sentry Parkway West
Building 18, Suite 120
Blue Bell, PA 19422

RE: North Penn 5 Superfund Site, Operable Unit 2
Response Action Plan (RAP), as required by the Administrative Settlement and Order on
Consent (AOC) for Removal Response Action (Docket No. CERC-03-2014-0060AC)

Dear Mr. Tomlinson:

The U.S. Environmental Protection Agency (EPA) has received and reviewed the subject document. Attached comments are provided for incorporation into a revised RAP. According to AOC Paragraph 49, "Respondents shall amend and submit to EPA a revised submission that responds to and corrects the specified deficiencies."

Please submit a revised RAP within five (5) days of the date of this letter. To expedite review of the revised document, please submit responses to our comments, a revised redlined electronic version, and a clean version of the revised RAP.

If you have any questions, please contact me at 215-814-3018.

Sincerely,

A handwritten signature in blue ink, appearing to read "SF", is positioned above the typed name of Sharon Fang.

Sharon Fang, P.E.
Remedial Project Manager

Attachment

cc: Dennis Kutz, PADEP
Ex. 4 - CBI, HGL
Allison Gardner, EPA
File

**NP5 OU2 Vapor Intrusion
Comments on the Response Action Plan (RAP)
June 2, 2014**

General Comments

1. Based upon the proposed RAP schedule, it is highly uncertain that the sampling could be performed in the heating season. Therefore, we are providing these comments for incorporation into a final RAP so that samples can be taken in November 2014. Please insert language in Section 8.0, Schedule that states sub-slab samples be collected in November when the building is being consistently heated. Also, state that the samples shall not be taken unless the facility is consistently heating the building prior to and during the event.
2. **Locations.** Please include the footprint of the plume on Figure 4. Additionally, EPA suggests that the sampling locations are staggered in an arc, mimicking the drawn interpretation on the plume extent under the building. A map is attached suggesting revised locations consistent with this comment. In addition, the samples should be no less than 8 feet from the edge of the building.
3. **Analysis.** Include all TCE breakdown products and ROD COCs in the chemical analysis [Table 4, RAP; Table 4, and QAPP]. The list of target compounds for this assessment does not include the breakdown products that may be generated during biodegradation.
4. **Supplemental RAP.** Provide a list of items that will be included in the Supplemental RAP 1) if additional sampling is chosen and 2) if preemptive mitigation is chosen. For example, the additional sampling RAP should include the trigger for mitigation, type, location and number of samples to be taken as part of the additional investigation. The preemptive mitigation Supplemental RAP should include the proposed design for the mitigation system and the performance standard (locations, analytical level, and when samples will be taken) by which the mitigation system will be deemed successful. For either path, the following should be included: schedule for implementation, schedule for final report, and next steps (i.e. mitigation for sampling path, or schedule for post-construction monitoring for preemptive mitigation).
5. **Schedule.** EPA could be consulted after the sub-slab sampling results, however, the decision to perform additional sampling or proceed to preemptive mitigation is the PRPs. State the timeframe in which this "Notification" will be communicated to EPA, e.g. 10 business days after the preliminary data is received, and state the remaining schedule for both options contingent up on this notification, e.g. RAP Supplement for additional sampling will be submitted within 10 business days of notification, or RAP Supplement/final design for preemptive mitigation will be submitted within 30 business days of notification.
6. **Schedule.** Constantia concurrence on decision points and deliverables should be performed prior to submittal to EPA.

Vapor Intrusion Specialists' Comments

7. **Section 3.2** states that a comprehensive list of COCs for OU2 at the Site is summarized on Table 1. Table 1 lists as COCs, 1,1-dichloroethene, 1,2-dichloroethane, PCE and TCE. It does not list the breakdown products of TCE, namely cis-1,2-DCE and vinyl chloride. These compounds and any other breakdown products of the primary COCs should be included on the table. At a minimum the analytes cis-1,2-dichloroethene and vinyl chloride should be added since they are listed in Appendix B – Health and Safety Plan (Appendix D – Constituents of Concern). Adding additional analytes will also require revision to Section 4.6 Analytical Methods. Please note that the listed laboratory detection limits in Table 1 may not be adequate for indoor air sampling. If indoor air sampling is necessary, EPA Region 3 may request that laboratory analysis be performed with TO-15 SIM to achieve necessary detection limits. (Section 3.5 of the QAPP will need to be updated to remain consistent with any changes made to Table 1.)
8. **Section 4 - Field Sampling Plan (FSP)** The proposed locations of the 6 sub-slab sampling points within the southern third of the Facility are shown on Figure 4. From Figure 4 it appears that at least 3 of the sampling points are within 6 feet of the edge of the building – which is not ideal to ensure that atmospheric air is not diluting the sample. Please confirm that the sub-slab sampling ports are at least 8 feet away from the edges of the building by adding this language into the RAP and confirming this in the field.
9. **Section 4.3 - Temporary Sub-Slab Gas Probe Installation and Testing, Page 8, second paragraph.** The paragraph mentions the weather data that will be collected during the sampling period. However, the section does not mention the weather conditions when samples should not be collected. Please add these into the RAP.
10. **Section 4.3 - Temporary Sub-Slab Gas Probe Installation and Testing.** Section 3.1, Conceptual Site Model states, “The soils within the OU2 overburden are characterized by low permeability based upon observations and measurements made during completion of the PDI. This low permeability limits the lateral and vertical movement of vapor within the subsurface.” Because of the expected low permeability of the soils, EPA Region 3 recommends an equilibration time of 2 - 6 hours after a subslab sampling port is fully installed and before the sample is collected - consistent with the EPA Superfund Vapor Intrusion FAQs, February 2012.
11. **Section 4.3 - Temporary Sub-Slab Gas Probe Installation and Testing** Due to the necessary length of the equilibration time, and the time it will take to collect a meaningful subslab sample, EPA does not believe that modeling clay will be sufficient to ensure that the subslab sampling ports do not leak. A more permanent seal will be required. The MSDS for Bentonite Pellets and Quikrete were included in Appendix F of the Health and Safety Plan. Are either of these materials intended to be used as an alternative to modeling clay?
12. **Section 4.4 - Soil Gas Sample Collection** While there is no national guidance stating the length of time the samples should be collected, EPA Region 3 requests for this building that the subslab samples be collected at least over 1 hour in a 6 Liter canister. The 200 mL/min flowrate for sample collection (approximately 30-minute grab samples if 6 Liter canisters are used,

approximately 5-minute grab samples if 1 Liter canisters are used) will not be adequate to collect a meaningful sample if the soils are of low permeability.

13. **Section 5.1 - Sample Containers and Preservation** Again, EPA requests that 6 Liter canisters be used for sample collection and not the 1 Liter canisters that are proposed in the RAP.
14. **Section 8 – Schedule.** EPA may decide that more than 8 subslab soil gas and collocated indoor air samples may be needed to assess the building. EPA requests that the phrase, “8 locations,” be changed to, “8 or more locations.”
15. **Appendix A - Quality Assurance Project Plan (QAPP) Addendum** All changes that EPA Region 3 has requested in the RAP must be reflected in the QAPP Addendum for consistency.
16. **Appendix A, Section 5.1 - Project Quality Assurance/Quality Control.** Please state whether the canisters will be individually certified to be clean or batch certified.
17. **Appendix A, Section 5.3 - Leak Prevention and Testing.** This section must be updated to include an alternative method to the use of modeling clay to seal the sub-slab sampling ports.
18. **Appendix A, Section 5.4 - Duplicate Samples.** Please state definitively the number of duplicate samples that will be collected. From the description of 1 per 20 investigative samples for VOC and fixed gases analyses, it can be assumed that only 1 duplicate sample will be collected. Please note that EPA requests a duplicate collection frequency of 1 per 10 investigative samples. For subslab samples, the duplicate will be collected using a “T” fitting. EPA wants to ensure that the same flowrate is used to collect the duplicate samples as the other samples – even if it increases the collection time.
19. **Appendix A, Section 5.5 - Summa Canister Vacuum Check.** Other than the Summa canister vacuum check, the QAPP Addendum does not state any conditions or limitations on where or when samples should be/should not be collected or any conditions that would make a sample invalid. Please revise the QAPP Addendum to include this information.
20. **Appendix A, Table 3** should be updated to change the reference from use of 1-Liter Summa canisters to 6-Liter Summa canisters.
21. **Appendix A, Table 4** should be updated to include TCE breakdown products as mentioned above.
22. **Appendix A, Table 6** should be updated to change the duplicate sampling frequency to 1 per 10 samples.

- 23. Appendix B - Building Information Form.** EPA expects this form to be customized for the Constantia Building and any other building that may need to be sampled for vapor intrusion.
- 24. Section 4.3** Third paragraph discusses the use of modeling clay around the sampling port. The effectiveness of using clay for this seal should be discussed, as it could cause problems with helium leak testing in the field.
- 25. Table 1** – TCA RL > RSL for IA samples.
- 26. Figure 4** – does the plume extend onto the adjacent property and underlie the building located on this parcel.
- 27. Appendix D.2** – what material will be used to help seal the shroud to the floor?

Hydrogeologist Comments

- 28.** The breakdown products of TCE have not been included in Table 4. At a minimum, 1,2-DCE and vinyl chloride should be included for analysis.
- 29.** It is not clear how the sampling locations were chosen. Please include the footprint of the plume on Figure 4. Additionally, it is suggested that the sampling locations are staggered in an arc, mimicking the drawn interpretation on the plume extent under the building. A suggested map is provided with these comments.
- 30.** Leak testing should occur both at the beginning and end of the sampling to verify no leakage from the modeling clay used to seal the hole.

Ft. Meade Comments

- 31.** [Section 6.1 Data Reduction, Validation, Verification, Usability, QAPP] The person who will be performing the validation should be named in the document. Their affiliation and qualifications should be included in this section.
- 32.** [Table 2, QAPP] It is recommended that along with the other screening procedures outlined, a temperature probe be inserted into the bore hole for the vapor intrusion sampling.
- 33.** [Section 4.2 Building Survey] If the PID should find a potential source in the building; consideration should be given to taking an internal summa canister sample to document the identity of the contamination. The PID can indicate the presence of, but cannot identify the component.
- 34.** [Page 7, RAP] Figure 4 is a typo, the correct figure to reference is Figure 5.

35. [Signature Page, QAPP] Terry Simpson is included on the list for an approval signature. Sharon Fang is the sole representative with EPA authority who approves Site documents. Please remove Ms. Simpson's signature line.

RPM Comments

36. **Page 5**, last paragraph is speculative. Please remove. The assessment results will confirm or deny whether vapors are migrating into the building, regardless of the soil type or permeability.
37. **Page 6, Section 3.4** states that screening level will be utilized for the six sub-slab soil gas samples. Should this screening level be applicable to the all sub-slab soil gas samples, even if additional samples are taken?
38. **Page 7, Section 4.1** states that a building survey will be completed. Complete the building survey and submit the information in the revised RAP. Also, add into the schedule the confirmation and updating of the survey results within 30 days of performing the subslab sampling.
39. **Page 8**. Any changed locations should be coordinated and approved by EPA or EPA's field representative.
40. **Page 8**. Section 4.3, second paragraph states "The information may be measured with on-site equipment or obtained from a reliable source of local measurements (e.g., a local airport)." Disclose which parameters will be recorded using on-site equipment and which will be recorded using other measurements. Also state where these measurements will be obtained, e.g. the name of the airport or weather station and how far it is from the site.
41. **Page 13, Section 6.2**. Delete the reference to the RAP Supplement being submitted to EPA on an "expeditious basis." State a timeframe for the Final Report for each RAP Supplement scenario in this document. Also make these same changes in Section 8.0
42. **Page 14, Section 6.2** Last sentence states the final Report will not be submitted until the completion of the tasks noted in the RAP Supplement. State the timing of the submittal for each option, e.g. if additional sampling is warranted and found to trigger mitigation, the Final Report will be submitted X days after the mitigation system is installed and tested, etc.

